Remarks

Entry of the amendments, reconsideration of the application, as amended, and allowance of all pending claims are respectfully requested. Claims 1-18 remain pending.

Independent claims 1 & 13-15 are amended herein to more particularly point out and distinctly claim certain features of applicants' invention. These amendments to the claims constitute a bona fide attempt to advance prosecution of this application, and are not meant to acquiesce to the outstanding rejections. Support for these amendments can be found throughout the application. See, e.g., p. 5, lines 21-24; p. 9, line 13 – p. 10, line 2; p. 12, lines 3-11; and FIGs. 1 & 3. Dependent claims 2, 3, 5-12 & 17 are in part amended herein in accordance with the above-noted amendments to the independent claims, or in response to claim objections stated in the Office Action (discussed below). No new matter is added to the application by the amendments presented.

Initially, the Office Action objected to claims 6-8 under 37 CFR 1.75(c) as being of improper dependent form for failing to further limit the subject matter of a previous claim. In response, claims 6-8 are amended herein to depend from independent claims 13-15, respectively, and to include the elements of claims 3 & 4. Withdrawal of the claims objection is thus respectfully requested.

In the Office Action, claims 1-3 & 10-18 were rejected under 35 U.S.C. 102(e) as being anticipated by Sedlar (U.S. Patent No. 6,549,916); claims 4-8 were rejected under 35 U.S.C. 103(a) as being unpatentable over Sedlar in view of Coleman et al. (U.S. Patent No. 6,032,154; hereinafter, "Coleman"); and claim 9 was rejected under 35 U.S.C. 103(a) as being unpatentable over Sedlar in view of Khalidi et al. (U.S. Patent No. 5,561,799; hereinafter, "Khalidi"). Applicants respectfully, but most strenuously, traverse these rejections to any extent deemed applicable to the claims presented herewith.

As presented herewith, applicants' invention is directed to providing transactional functionality to a hierarchical file system in order to allow files in the file system to be managed in the transactional context (e.g., applying commit and rollback functionality) that is conventionally applied to database management system technology. Further, the implementation

of the transactional functionality using a transaction resource manager and a file resource manager ensures that transactional changes to files of the hierarchical file system remain consistent with related data of another resource (e.g., data in a database) separate from the hierarchical file system.

As one example, applicants claim a method of managing a hierarchical file system that includes providing a transaction manager arranged for cooperation with a file resource manager (e.g., claim 1). The file resource manager manages the hierarchical file system and the transaction manager implements transactional functionality via, in part, the file resource manager to effectuate consistent transactional changes to one or more files of the hierarchical file and to data of one or more resources which are separate from the hierarchical file system, and wherein the data of the one or more resources is related to the one or more files of the hierarchical file system. The consistent transactional changes are initiated by the transaction manager and are accomplished via, in part, the file resource manager (see also FIG. 3). Thus, in applicants' claimed invention, transactional functionality (comprising consistent transactional changes) is implemented by the transaction manager via, in part, the file resource manager. This management of the hierarchical file system using both a transaction manager and a file resource manager is very different from the teachings of Sedlar.

For instance, Sedlar fails to describe, teach or suggest the above-described architecture that includes a transaction manager arranged for cooperation with a file resource manager. Instead, Sedlar describes a database server managing a database that emulates a file system (col. 14, lines 23-29; see also FIG. 4 thereof). The database server in Sedlar manages the file resources of an emulated file system without being in cooperation with any other manager entity, let alone a transaction manager as claimed by the present invention (see, e.g., FIGs. 3 & 4 thereof). Moreover, since Sedlar is directed to emulating a file system using a database, there is no need for a transaction manager to supplement the database server by initiating, for example, consistent transactional changes to one or more files of a hierarchical file system and to data of one or more resources, as recited by the claims presented herewith.

In addition to the architecture of Sedlar failing to teach or suggest the presence of a transaction manager in cooperation with the file resource manager, the functionality of the

present invention is also not described or suggested by Sedlar. For example, applicants' invention recites the transaction manager implementing transactional functionality via, in part, the file resource manager. This implementation of transactional functionality allows, for instance, the transaction manager to directly effectuate transactional changes to data of one or more resources (e.g., data of a database) which is separate from the hierarchical file system, and to effectuate such changes (via a file resource manager) to one or more files of a hierarchical file system as well.

Further, applicants recite functionality implemented by the transaction manager that includes effectuating consistent transactional changes to one or more files of the hierarchical file system and to data of the one or more resources, wherein the data is related to the one or more files. This recited functionality allows, for example, a library of video files to reside in a hierarchical file system while descriptive information of the video files (i.e., data related to the video files) reside in a database (see FIG. 3) separate from the hierarchical file system. If a video file in this example is altered, the related description is altered consistently to reflect the changed video content (see specification, p. 12, line 26 – p. 13, line 9). In contrast, there is no discussion in Sedlar that the transactional changes to the emulated file system are consistent with transactional changes to data of one or more resources, let alone that such consistent changes be effectuated by transactional functionality implemented within a transaction manager.

Still further, applicants' claimed invention recites that the consistent transactional changes are initiated by the transaction manager and are accomplished, in part, via the file resource manager. This usage of both the transaction manager and the file resource manager provides a facility, for example, to initiate transactional commands (e.g., prepare to commit) at the transaction manager which are conventionally understood by a database management system, and to process those commands to effectuate the transactional changes to files of a hierarchical file system. In contrast, this particular manner by which transactional changes are made using both a transaction manager and a file resource manager is simply not described or suggested by Sedlar. Instead, Sedlar utilizes a database server (without a transaction manager) to accomplish transactional changes.

In support of the rejection of prior claim 1, the Office Action cited col. 12, line 53 – col. 13, line 14; col. 13, line 53 – col. 14, line 16; col. 14, line 45 – col. 15, line 15; and col. 21, lines 54-59 as teaching a transaction program means arranged for cooperation with the hierarchical file system. These sections describe transactional commands (e.g., "commit transaction" at col. 13, line 3 and "commit and roll-back at col. 14, line 51) and emulating a hierarchical file system in a database environment (e.g., col. 13, line 53-56; col. 15, lines 54-65 and col. 21, lines 54-59). A careful reading of these sections, however, reveals no discussion or suggestion of a transaction manager arranged for cooperation with a file resource manager. The database server itself in Sedlar manages the emulated file system.

The Office Action also cites col. 13, lines 53-61 and col. 14, lines 19-29 of Sedlar as teaching the above-noted effectuating of consistent transactional changes. Although these sections of Sedlar describe transactional changes (see, e.g., col. 13, lines 55-56), they do not disclose or suggest consistent transactional changes to one or more files of a hierarchical file system and to data of one or more resources separate from the hierarchical file system. It is clear from col. 14, lines 19-29 of Sedlar that the transactional changes require a translation process using a DB file API that allows an application to access the emulated file system. However, this translation process does not describe or suggest such transactional changes being initiated by an external transaction manager and accomplished, in part, via a file resource manager, as recited by the claims presented herewith.

Based on the foregoing, applicants respectfully submit that Sedlar does not teach or suggest various features of applicants' invention as recited in the independent claims presented herewith. Thus, applicants respectfully request reconsideration and withdrawal of the rejection of independent claims 1 & 13-15. The dependent claims are believed patentable for the same reasons as the independent claims from which they directly or ultimately depend, as well as for their own additional characterizations. Neither Coleman or Khalidi teach, suggest or imply the above-noted deficiencies of Sedlar when applied against the claims presented herewith.

Should the Examiner wish to discuss this case further with applicants' attorney, the Examiner is invited to contact applicants' attorney at the below-listed number.

Respectfully submitted,

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